DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO ATTENTION OF

12 FEB 1988

Water Quality Compliance Branch

Dear Committee Members,

Please find enclosed, the minutes, attendance list and copies of the overheads presented at the January 26, 1988 Interagency 2,3,7,8-TCDD (Dioxin) Guidance Value Committee Meeting.

The three tier 2,3,7,8-TCDD testing approach discussed at our last meeting should be ready for distribution to committee members within the next two weeks.

Any questions and/or comments concerning these minutes and overheads can be directed to myself or Eric A. Stern at (212) FTS 264-5620.

Sincerely,

John F. Tavolaro
Chief, Water Quality
Compliance Branch

Enclosures

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MEMORANDUM FOR THE RECORD

SUBJECT: Minutes of the January 26, 1988 Interagency Dioxin Guidance Value Committee

The fourth federal interagency dioxin committee meeting to determine bioaccumulation interim guidance values for 2,3,7,8-TCDD (dioxin) for ocean disposal met on January 26, 1988. The meeting took place at 26 Federal Plaza, New York City; John Tavolaro, COE, chaired the meeting. The attendance list is attached.

At the last meeting, the group came to an understanding that evaluative criteria developed for PCB's, which calculated maximum bioaccumulation potential, would be applied to dioxin as an interim measure, until such time as Mr. Rubinstein's research is completed, analyzed and discussed. Eric Stern, COE, explained that these screening criteria have been applied to four permit applicants (see attachments 1-4). None of these four has been issued a public notice yet. When Celanese Corporation in the Passaic River was tested for bulk sediment concentrations of dioxin at a detection limit of 0.1 ppb, no measurable detection of dioxin was found. The project is currently being retested for dioxin to a lower detection limit of 20 pptr. No measurable dioxin concentration was detected for Texaco, also in the Passaic River. At Tenneco, adjacent to Texaco, 2 of the 3 sample sites exceeded the 50 pptr FDA levels of concern. The 3 sample sites for this project were averaged and the average calculated bioaccumulation values still exceeded 50 pptr. The fourth project is Mariner's Harbor in the Kill Van Kull, where 6 samples were averaged. One area with a high dioxin concentration cannot be ocean disposed; dredging will be allowed in the other areas if the material is expeditiously capped. This was the most difficult project to work with.

When using this test as the interim criteria, it must be decided whether to average cores and whether it should be a weighted average. The primary problem is that we are using a test that was designed to be a "second tier" test as the final deciding factor. Mr. Tavolaro suggested that we develop a "third tier" test based on bioaccumulation testing for dioxin. The testing done for the Arthur Kill deepening project is an example of how the third tier is needed.

For the Arthur Kill deepening project, 6 sample sites were chosen for dioxin testing (see attachments 5-7). The normal bioassay test showed that the material was acceptable for unrestricted ocean dumping. The first tier of testing, the bulk sediment results, showed that there was dioxin present. The second tier, the projected tissue concentration,

indicated that the concentrations could potentially lead to high levels of bioaccumulation. The third tier, the actual tissue concentration, showed that during a 10-day exposure period, the potential for contamination is not realized. It could be argued that if the material were capped within 10 days of disposal, the dioxin would not be made available to the marine environment. It is known that dioxin uptake is slow. If it is isolated quickly, the possibility of contamination could be minimized. Mr. Tavolaro suggested if there is a potential problem shown by the calculated tissue levels, testing should not stop at the tier 2 level. However, if tier 2 indicates minimal problems, the next level would not be necessary. The key question is whether capping will be accepted as a viable management tool for sediments contaminated with dioxin.

Christopher Schmitt, USF&WS, asked if we can accurately predict the equilibrium concentration of an organism based on a short test. Norman Rubinstein, USEPA, said we have been applying empirical data and making interpolations. Vic McFarland, WES, said that dioxin uptake is virtually linear and that the current findings are in line with the EPA/Duluth exposures where no dioxin was detected in fish after 15 days of exposure.

Stan Gorski, NOAA, asked if the organisms that were tested were selected because of their lipid content. Mr. Rubinstein said they were used because they are benthic and would come into contact quickly with contaminants.

Mr. Tavolaro said that no organisms live on the site during the period of active dumping. A condition of the permit can be that capping must take place within a set period of time. In the past there has only been one instance of violating this time period and that was a problem of notification. Thomas Belton, NJDEP, suggested that we should generate more data before implementing a management strategy. Mr. Tavolaro said that if the committee accepts this approach then we will generate more data by implementing a management strategy.

Mr. Rubinstein said that EPA and the COE will meet in February to begin rewriting "Ecological Evaluation of Proposed Discharge of Dredged Material into Ocean Waters" (the green book). There will be substantial changes to the testing protocol; for example, the hard clam Mercenaria mercenaria will no longer be used for testing. He suggested that if a third tier test for dioxin is developed, M. mercenaria should not be used; Nereis virens (sandworm) might be the only animal necessary for testing.

In 1987, the COE established two new buoy locations (see attachments 8-12). At the time of the change-over, half of the dredged material from North Shooter's Island Channel was deposited as the last project at the old NE disposal mound

and the other half on the bottom as the first project at the new OM site. The North Shooters Island dredged material directly corresponds with the Arthur Kill deepening project, and the dioxin testing we just reviewed characterizes North Shooters Island sediments. When the Corps recognized this fact, 169,000 cubic yards of dredged material from Sandy Hook Channel was placed on top of the NE mound, in order to cap the mound as well as closing the NE disposal site. 200,000 cubic yards of sand from Rockaway Inlet are currently also being placed there. The site will continue to be monitored carefully and will have priority if additional cap material is required in the future.

Mr. Rubinstein updated the group on his research project. EPA is constructing a laboratory separate from the rest of the EPA/Narragansett facility. The air filtration system, exposure treatment, and waste treatment systems are complete; the ventilation system is in the process of construction. When it is completed, NIH will inspect the facility. The major objective of the research is to determine the relationship of ten day exposures to kinetically derived and empirically derived steady state values. Starting in March, 100-day exposures will be initiated. This data will be reported to the committee in December 1988.

The question before the committee is how to treat projects that are currently under consideration without waiting until the EPA data becomes available. Joseph Seebode, COE, is looking for alternatives that will allow applicants to build their projects. He suggested that all alternatives for the applicants, including retesting, be explored.

The Arthur Kill deepening project is not scheduled to proceed for 2-3 years. The committee agreed that the current testing is adequate to characterize the type of sediment that needs to be tested. Planning for the project can continue with the understanding that it will be retested before actual construction begins, since the final evaluative criteria are not presently developed but are anticipated to be developed prior to construction.

Mr. Tavolaro recommended that if dredged material fails the first two tiers of testing, then the third tier will be evaluated in the following way: if the actual 10-day tissue level is less than 25 pptr then disposal with capping would be allowed; if over 25 pptr. then no ocean dumping would be allowed. Applicants for dredging in Newark Bay, northern Arthur Kill and Kill Van Kull would be told to reserve extra tissue when sampling in case it is needed later. Third tier testing will cost $10-15,000; before it can be required the committee should agree that if the material meets the above criteria, disposal with capping will be allowed. The four applicants described above are probably the only projects in

the affected area so far; no other federal projects are currently being tested.

The committee agreed to the concept of three tier testing, in principle and as outlined above Details still need to be worked out. The Corps will write up a proposal outlining the 3-tier testing protocol in detail and send it to the committee for their consideration. Consensus will be sought

DIOXIN MEETING
ATTENDANCE
JANUARY 26, 1988

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